

Hazardous Waste Operations and
Emergency Response
(Hazwoper)

***Functional Based Elective –
Crane Barge***

Notes for the Instructor

These scenarios are based on actual incidents that involved USCG units. We changed some of the details but the basic scenarios are nearly identical to the actual incidents. We added some details to illustrate some of the hazards Marine Safety personnel will likely face in such incidents.

The PowerPoint slides that go with these scenarios contain instructions for the instructor. They are an abbreviated version of the information in this document. We encourage you to read this document and become familiar with the scenarios before using them in a class. We suggest providing class participants with a copy of the scenario and instructions from this Instructor Guide when you show the associated slide.

We encourage instructors to make these scenarios applicable to their OCMI Zones. To that end, we have left the names of the ports and the vessels blank.

Documents such as DCMs and MSDSs are as close as possible to the actual documents used in the incidents these scenarios are based on. As they say on TV, we changed the names to protect the innocent.

We have included a variety of scenarios in this Instructor Guide to give you several options for exercises. These are all designed as stand-alone exercises.

We encourage you to provide feedback to improve these scenarios. If you have suggestions for new scenarios please feel free to submit them.

Please make every effort to keep the focus of discussions on health and safety. Class participants will often want to expound on other subjects or bring up points that are not closely related to this subject matter.

Instructions for Activities.

- Single Person* Assign each class participant the tasks listed on the exercise scenario. Instruct them to read the scenario and develop a written list of the information the scenario requests. After an appropriate period of time, ask for a volunteer to read their list. When he/she is done, ask who has any other items to add. Facilitate a discussion of the different lists and/or different priorities. Maintain the focus of all discussions on health and safety issues.
- Group* Break the class into an appropriate number of groups (we suggest at least three people per group). Assign each group the tasks listed on the exercise scenario. Instruct them to read the scenario and develop a written list of the information the scenario requests. After an appropriate period of time, ask for a group to read their list. When they are done, ask who has any other items to add. Facilitate a discussion of the different lists and/or different priorities. Maintain the focus of all discussions on health and safety issues.
- Options* Have the participants write their lists on a white board or on flip chart paper to make it easier for the other groups to see during their presentations.
- Impose a time limit on each activity. This will add stress to the activity and cause the participants to focus more intently on the task at hand.
- Add an element of competition to the activity. If you impose a time limit you can also give an award or prize to the group or person who compiles the biggest list.

Opcon Crane Barge Scenario Guide

Situation

At 1000 local time a crane barge that was clearing flood debris from a river struck a pipeline that crossed the river. The crane operator notified the local USCG unit via VHF-FM channel 16. They report an oil product of some kind spilling from the pipe. There are some pipeline markers near the scene but they are too far away for the crane operator to see. The operator is not sure who owns the pipeline because there are four other pipelines crossing the river at that same point on the same pipe bridge.

A team of pollution investigators from the Marine Safety Office is enroute to the scene. A boat crew from the Station is conducting towing exercises with an Auxiliary boat where the river empties into a large bay (less than a mile away from the pipeline break). There is a city beach near the mouth of the river and a popular recreational vessel marina is nearby.

Tasks

List the hazards to USCG personnel health and safety.

Rank order these hazards from highest to lowest.

Describe actions you can recommend to USCG units in the area to protect themselves from the most immediate hazards. Describe any restrictions you would want to impose on the boat crew and/or the public.

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| <i>Instructions</i> | <p>Provide the training participants with the scenario using the handout or the PowerPoint slides.</p> <p>Discuss the scenario with them and ensure they have the information necessary to answer the questions.</p> <p>Provide other information if they request it.</p> |
| <i>Recognize</i> | <p><i>List the hazards to your health and safety.</i></p> |
| <i>Suggestions</i> | <p>Most pipelines carry flammable liquids; usually petroleum products. Some pipelines carry other substances but they are usually also flammable. The most immediate threat is fire near the source of the leak. As the product disperses in the river it will become a progressively lower fire hazard. (As an added complication, you can tell the participants the river is a concrete flood control channel with a low flow-channel in the middle. Tell them there is little water in the river and the low-flow channel is full of product for a few hundred yards. This would extend the area affected by the fire hazard.)</p> <p>Petroleum products often contain substances such as benzene, hydrogen sulfide or poly aromatic hydrocarbons that are carcinogens. The concentrations of these substances near the product may be high enough to cause adverse health risks.</p> <p>The pipeline may be damaged enough to make it unstable or prone to further damage. Personnel in the area should exercise caution in the area.</p> <p>The crane is an overhead hazard and would require the use of hard hats and safety shoes.</p> |
| <i>Evaluate</i> | <p><i>Rank order these hazards from highest to lowest.</i></p> |
| <i>Suggestions</i> | <p>The most immediate threat to life and health is the danger of fire from the flammable liquids that are most likely present.</p> <p>The possible presence of carcinogens is a concern and should cause all personnel to exercise caution near the product.</p> <p>The overhead hazards from the crane pose a danger to anyone in the immediate vicinity.</p> |

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| <i>Control</i> | <i>Describe actions you can recommend to USCG units in the area to protect themselves from the most immediate hazards. Describe any restrictions you would want to impose on the boat crew and/or the public.</i> |
| <i>Suggestions</i> | <p>Discuss with the pollution investigation team their intentions and discuss possible safety precautions to take in the vicinity of the incident in light of the fire and health hazards.</p> <p>Restrict the number of people enroute to the scene to essential personnel only.</p> <p>Advise the boat crew and Auxiliary boat to leave the area.</p> <p>Notify the city of incident and advise them of the hazards you feel are present. Recommend to them avoiding any contact with the spilled product.</p> <p>Keep in touch with the MSO to get cargo and health hazard information. Pass information on to afloat units.</p> |